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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,532	04/30/2001	Warren M. Farnworth	97-1433.1	3740

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STEPHEN A GRATTON  
THE LAW OFFICE OF STEVE GRATTON  
2764 SOUTH BRAUN WAY  
LAKEWOOD, CO 80228

EXAMINER
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CHANG, RICK KILTAE

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 03/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



# Office Action Summary

Application No.

09/844,532

Applicant(s)

FARNWORTH ET AL

Examiner

Rick K. Chang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 34-58 is/are pending in the application.
- 4a) Of the above claim(s) 36,37,42,44-48 and 52-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34,35,38-41,43 and 49-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5.
- ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_



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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Species VIII in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). The applicants allege that claims 42 and 52-58 are drawn to the elected Species VIII (claims 34-35, 38-41, 43, and 49-51). To the contrary, claims 42 and 52-58 are drawn to Species relating to Figs. 2D or 3B. Therefore, claims 42 and 52-58 are withdrawn from further consideration, along with claims 36-37 and 44-48.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The abstract of the disclosure is objected to because the abstract does not describe a method for fabricating an interconnect sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.



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5. Claims 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Grube et al (US 5,525,545).

Grube discloses in Figs. 10A-10D and 12 all the claimed limitations.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 38-41, 43 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al (US 5,525,545) in view of Official Notice and Fjelstad et al (US 5,632,631).

Grube discloses forming a connecting portion (50), a contact pad (34) and substantially all the claimed limitations.

Grube fails to disclose forming a conductive via by laser machining in the substrate and partially filling the via with a conductive material and forming a plurality of projections in the metal layer such that each lead comprises at least one projection.

Official Notice is taken that it is well known in the art to form a conductive via by laser machining in the substrate and partially filling the via with a conductive material to provide electrical communication with the connecting segment and the leads.

Fjelstad discloses forming a plurality of projections (32) in the metal layer such that each lead comprises at least one projection thereby effecting scraping action against the bumped contact for better connection.



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Grube by forming a conductive via by laser machining in the substrate and partially filling the via with a conductive material, as taught by Official Notice, for the purpose of providing electrical communication with the connecting segment and the leads.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Grube by forming a plurality of projections in the metal layer such that each lead comprises at least one projection, as taught by Fjelstad, for the purpose of effecting scraping action against the bumped contact for better connection.

### *Conclusion*

8. Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



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A handwritten signature in black ink, appearing to read 'Rick K. Chang'.

Rick K. Chang  
Examiner  
Art Unit 3729

RC  
March 25, 2002